

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously Presented) A tray transferring apparatus for transferring trays on which electronic components are mounted, the tray transferring apparatus comprising:

a main frame;

a fixing means provided on the main frame, wherein the fixing means couples a first tray to the main frame;

a correcting means provided on the main frame, wherein the correcting means adjusts a position of the first tray relative to the mainframe;

a gripping means provided on the main frame, wherein the gripping means grips a second tray; and

at least one sensor provided on the main frame, wherein the at least one sensor senses at least one of an operational position of the gripping means or a presence of said second tray.

2. (Previously Presented) The apparatus of claim 1, wherein the fixing means comprises:

a first fixing unit installed on a first side of the main frame and configured to

support a first end of the first tray; and

a second fixing unit installed on a second side of the main frame and configured to support a second end of the first tray.

3. (Previously Presented) The apparatus of claim 2, wherein the first fixing unit comprises:

a pin attached to the main frame;
a tension spring having a first end coupled to the pin;
a first fixing member coupled to a second end of the tension spring and configured to elastically grip one end of the first tray, wherein a slot is formed in the first fixing member; and

a slide member coupled to the main frame and installed in the slot of the first fixing member and configured to guide movement of the first fixing member.

4. (Previously Presented) The apparatus of claim 3, wherein a hooking jaw is formed in one end of the first fixing member, so that the first tray can be hooked and clamped thereon.

5. (Previously Presented) The apparatus of claim 3, wherein the second fixing unit comprises a second fixing member installed on a second side of the main frame and configured to support the second end of the first tray.

6. (Original) The apparatus of claim 5, wherein the second fixing member is formed in a 'L' shape.

7. (Previously Presented) The apparatus of claim 1, wherein the correcting means is installed along a central axis of the main frame.

8. (Previously Presented) The apparatus of claim 1, wherein the correcting means comprises:

a plate installed in the upper portion of the main frame;

a compression spring installed between a lower surface of the plate and the main frame; and

a spacer coupled to a lower portion of the compression spring and configured to adjust a position of the first tray relative to the main frame.

9. (Previously Presented) The apparatus of claim 1, wherein the gripping means comprises:

a gripping unit configured to grip the second tray;

a driving unit configured to drive the gripping unit; and

a guide unit configured to guide movement of the gripping unit.

10. (Previously Presented) The apparatus of claim 9, wherein the gripping unit comprises:

a plurality of grippers disposed on opposite sides of the main frame and configured to grip the second tray; and

a plurality of gripper plates disposed on opposite sides of the main frame, wherein the plurality of grippers are installed on the plurality of gripper plates.

11. (Previously Presented) The apparatus of claim 9, wherein the driving unit comprises:

a ball screw configured to move the gripping unit; and

a cylinder configured to drive the ball screw.

12. (Previously Presented) The apparatus of claim 9, wherein the guide unit comprises a rod that passes through the gripping unit, wherein the rod is configured to guide movements of the gripping unit.

13. (Previously Presented) The apparatus of claim 1, wherein the at least one sensor is an optical sensor.

14. (Canceled)

15. (Previously Presented) The apparatus of claim 13, wherein the optical sensor comprises first and second optical sensors.

16. (Previously Presented) The apparatus of claim 15, wherein the first optical sensor is installed at an upper portion of the main frame and is configured to sense movement of the gripper means, and wherein the second optical sensor is installed at a side of the main frame and is configured to sense the presence of the second tray.

17. (Previously Presented) The apparatus of claim 1, wherein the correcting means is configured to bias a fixed tray against fixing members of the fixing means to thereby adjust a position of the first tray supported by the fixing means.

18. (Previously Presented) The apparatus of claim 17, wherein the correcting means comprises an elastic element mounted on the main frame and configured to press against the first tray supported by the fixing means.

19. (Previously Presented) The apparatus of claim 17, wherein the correcting means comprises first and second elastic members that are mounted, respectively, adjacent first and second ends of the main frame, and wherein the first and second elastic members are configured to press against the first tray supported by the fixing means.

20. (Previously Presented) The apparatus of claim 1, wherein the fixing means is configured to hold the first tray immediately adjacent the main frame, and wherein the gripping means is configured to hold the second tray against a side of the first tray opposite the main frame.

21. (Previously Presented) The apparatus of claim 1, wherein the gripping means is configured to hold the second tray against a side of the first tray opposite the main frame such that electronic components arranged in holding depressions in the second tray are prevented from escaping the holding depressions.

22. (Currently Amended) A tray transferring apparatus for transferring handling trays bearing electronic components, the apparatus comprising:

a main frame;

a fixing unit installed on the main frame and configured to hold a first tray with an upper side of the first tray positioned immediately adjacent to a lower side of the main frame;

a gripper unit installed on the main frame and configured to hold a second tray bearing a plurality of electronic components in holding depressions, wherein the gripper unit is configured to hold the second tray so that an upper side of the second tray is positioned immediately adjacent to a lower side of the first tray ~~opposite the main frame~~.

23. (Previously Presented) The apparatus of claim 22, wherein the gripper unit is configured to hold the second tray against the first tray to prevent the electronic components from escaping the holding depressions.

24. (Previously Presented) The apparatus of claim 22, further comprising a correcting unit that is configured to adjust a position of the first tray held by the fixing unit relative to the main frame.

25. (Previously Presented) The apparatus of claim 24, wherein the correcting unit comprises a biasing member that is configured to press the first tray against gripper jaws of the fixing unit.

26. (Previously Presented) The apparatus of claim 25, wherein the biasing member is mounted on the main frame.

27. (Previously Presented) The apparatus of claim 8, wherein the spacer limits movement of the first tray relative to the main frame.

28. (Previously Presented) The apparatus of claim 17, wherein the correcting means is configured to limit movement of the first tray relative to the main frame.

29. (Previously Presented) The apparatus of claim 20, wherein the fixing means is configured to hold the first tray immediately adjacent a bottom surface of the main frame, and wherein the gripping means is configured to hold the second tray against a bottom surface of the first tray.

30. (Cancelled)

31. (Previously Presented) The apparatus of claim 24, wherein the correcting means is configured to limit movement of the first tray relative to the main frame.

32. (Previously Presented) The apparatus of claim 22, further comprising a sensor provided with the main frame, wherein the sensor senses an operational position of the gripper unit or a presence of the second tray.